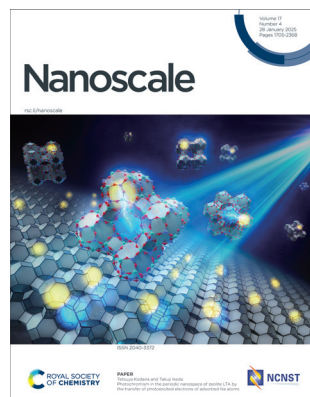


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Cover

See Tetsuya Kodaira and Takuji Ikeda, pp. 1959–1969.

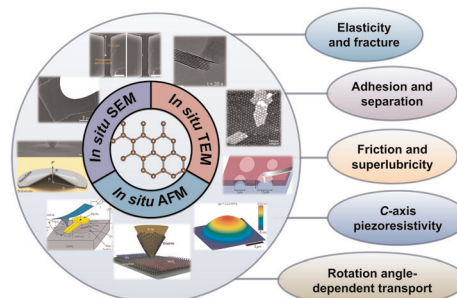
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1722

Mechanical and electromechanical properties of 2D materials studied *via in situ* microscopy techniques

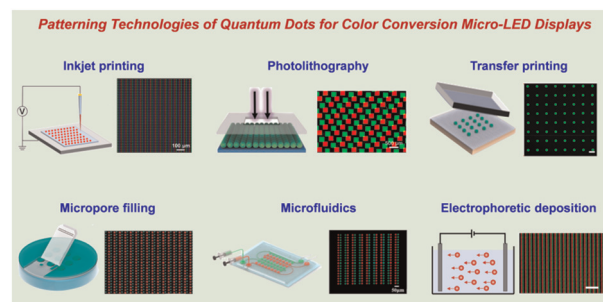
Bing-Jie Wang, Wei-Long Wu, Xian-Long Wei* and Qing Chen*



1764

Patterning technologies of quantum dots for color-conversion micro-LED display applications

Yuhui Wang, Yunshu Luo, Xuemin Kong, Tingzhu Wu, Yue Lin,* Zhong Chen* and Shuli Wang*



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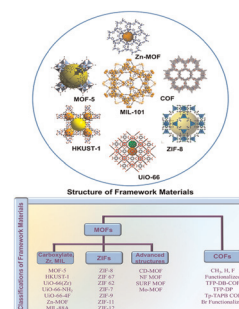
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REVIEWS

1790

Advancements in framework materials for enhanced energy harvesting

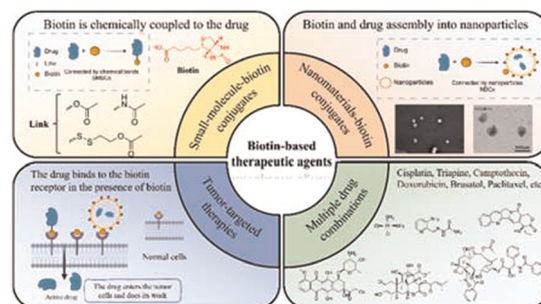
Anulipsa Priyadarshini, S. Divya, Jaykishon Swain, Niharika Das, Subrat Swain, Sugato Hajra,* Swati Panda, Raghavendra Samantaray, Mohamed Belal, Kushal Ruthvik Kaja, Naveen Kumar, Hoe Joon Kim, Tae Hwan Oh, Venkateswaran Vivekananthan and Rojalin Sahu*



1812

Recent advances in biotin-based therapeutic agents for cancer therapy

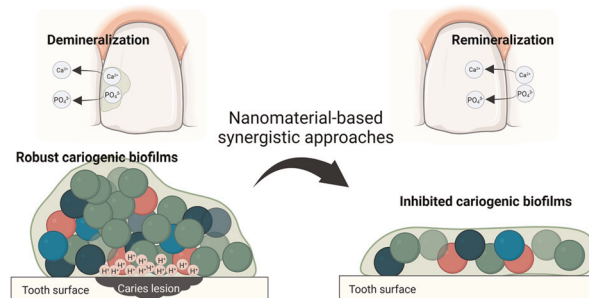
Chao Wang, Yutao Xiu, Yujing Zhang, Yanhong Wang, Jiazhen Xu, Wanpeng Yu* and Dongming Xing*



1874

Nanomaterial-based synergistic strategies for combating dental caries: progress and perspectives

Ke Xu, Regina Huang, Xuan Li, Lijian Jin, Chung-Nga Ko, Min Li, Hai Ming Wong* and Ken Cham-Fai Leung*

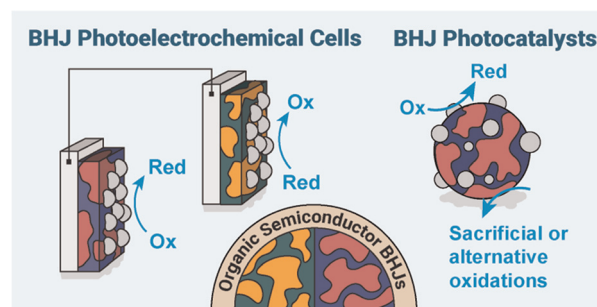


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1889

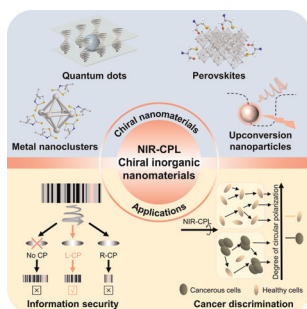
Organic semiconductor bulk heterojunctions for solar-to-chemical conversion: recent advances and challenges

Yuri Kim, Hoon Kim, Hyeongyu Lee, Tack Ho Lee* and Han-Hee Cho*



MINIREVIEWS

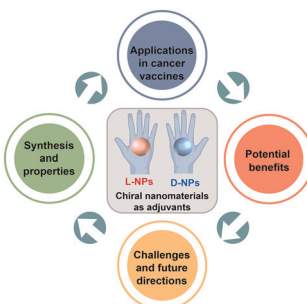
1922



Near-infrared circularly polarized luminescence enabled by chiral inorganic nanomaterials

Yanji Huang, Yajie Zhou, Xueru Guo, Zhi Tong and Taotao Zhuang*

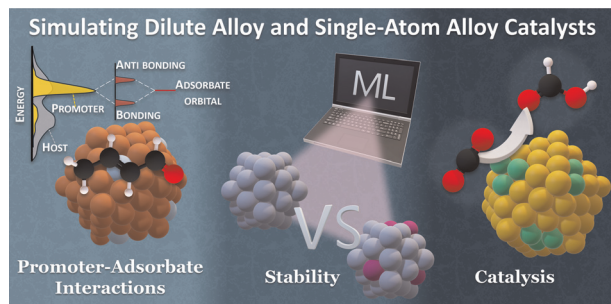
1932



Chiral nanomaterials as vaccine adjuvants: a new horizon in immunotherapy

Kaixuan Wang, Hongshuang Wang* and Xiaohui Wang*

1936

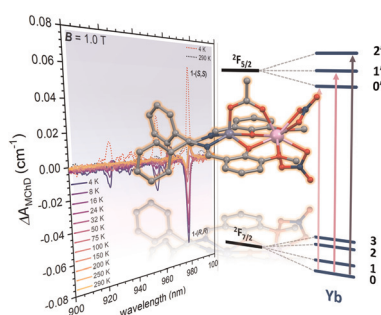


Advances in simulating dilute alloy nanoparticles for catalysis

John N. El Berch, Maya Salem and Giannis Mpourmpakis*

COMMUNICATION

1954



Coexistence of room temperature magneto-chiral dichroism and magneto-electric coupling in a chiral nanomagnet

Langit Cahya Adi, Maxime Aragon-Alberti, Jérôme Rouquette, Geert L. J. A. Rikken, Cyrille Train, Jérôme Long* and Matteo Atzori*

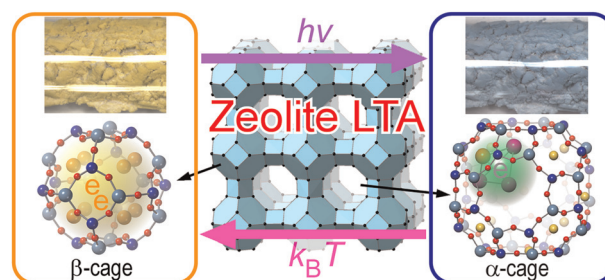


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1959

Photochromism in the periodic nanospace of zeolite LTA by the transfer of photoexcited electrons of adsorbed Na atoms

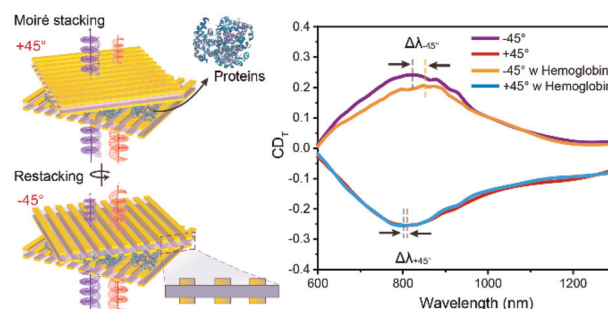
Tetsuya Kodaira* and Takuji Ikeda



1970

Moiré metasurfaces with tunable near-infrared-I chiroptical responses for biomolecular chirality discrimination

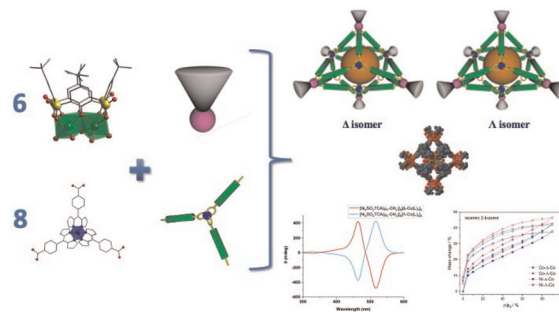
Mengjia Cen, Jiawei Wang, Ming Cheng, Ziyang Lei, Ye Li, Zhenming Wang, Xueqian Zhao, Zixuan Wu, Huanian Zhang* and Yan Jun Liu*



1980

Face-controlled chirality induction in octahedral thiacalixarene-based porous coordination cages

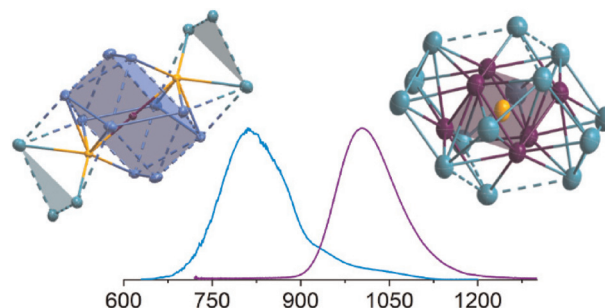
Ivan V. Khariushin, Alexander S. Ovsyannikov, Stéphane A. Baudron, Jas S. Ward, Anniina Kiesilä, Kari Rissanen, Elina Kalenius, Matthieu Chessé, Beata Nowicka, Svetlana E. Solovieva, Igor S. Antipin, Véronique Bulach and Sylvie Ferlay*



1990

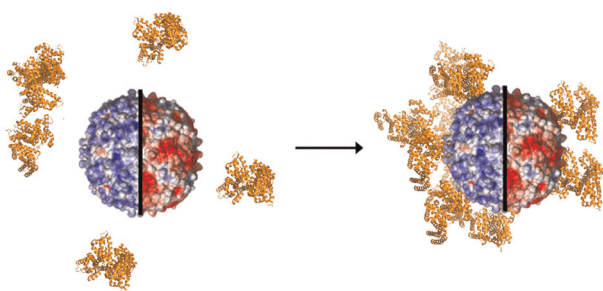
Sulfide-mediated growth of NIR luminescent Pd/Ag atomically precise nanoclusters

Yu-Rong Ni, Michael N. Pillay, Tzu-Hao Chiu, Hao Liang, Samia Kahlal, Jie-Ying Chen, Yuan-Jang Chen, Jean-Yves Saillard* and C. W. Liu*



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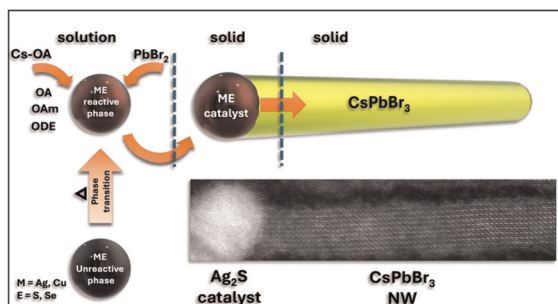
1997



Systematic probing of protein adsorption on protein-based nanoparticles in dependence of the particle surface charge

Ben Otange, Tobias Katenkamp, Hendrik Böhler, Michael Rütten, Laurin Lang, Florian Schulz, Wolfgang J. Parak* and Tobias Beck*

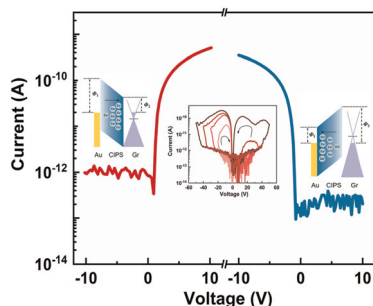
2004



Catalyst-assisted growth of CsPbBr₃ perovskite nanowires

Karam Shreteh, Michael Volokh and Taleb Mokari*

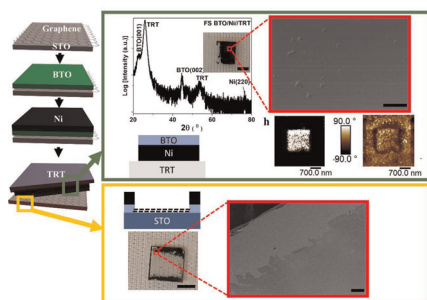
2011



A reconfigurable memristor diode based on a CuInP₂S₆/graphene lateral heterojunction

Chuanzheng Liao, Mengyao Zhang, Yurong Jiang,* Suicai Zhang, Xueping Li, Leiming Yu, Xiaohui Song, Kang Liu, Ding Wang, Jianye Wang* and Congxin Xia*

2020



Free standing epitaxial oxides through remote epitaxy: the role of the evolving graphene microstructure

Asraful Haque,* Suman Kumar Mandal, Shubham Kumar Parate, Harshal Jason D'souza, Pavan Nukala and Srinivasan Raghavan*

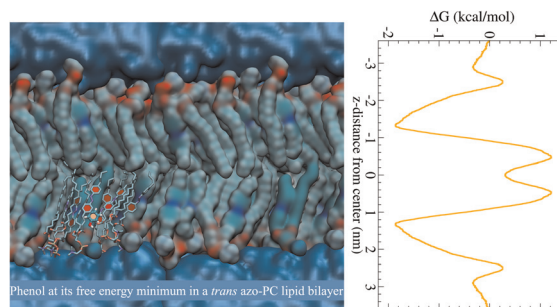


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Fully atomistic molecular dynamics modeling of photoswitchable azo-PC lipid bilayers: structure, mechanical properties, and drug permeation

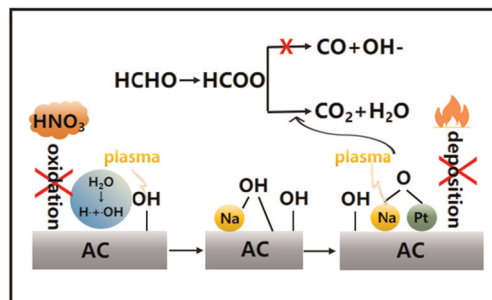
Kevin A. Alberto, M. N. Hasna Begam, Hejian Xiong, Wataru Shinoda, Paul A. Slesinger, Zhenpeng Qin and Steven O. Nielsen*



2043

Efficient regulation of surface hydroxyl groups on a Pt/Na/AC catalyst using two-step nonthermal plasma for high formaldehyde oxidation performance

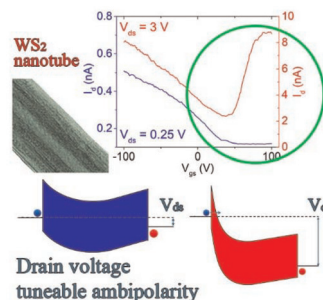
Liping Lian, Hui Xu, Ruchen Shu, Yujie Tan, Nan Wang, Jinzhu Ma,* Feng Qin, Danyan Cen, Jianyuan Hou and Renxi Zhang*



2052

Ambipolar conduction in gated tungsten disulphide nanotube

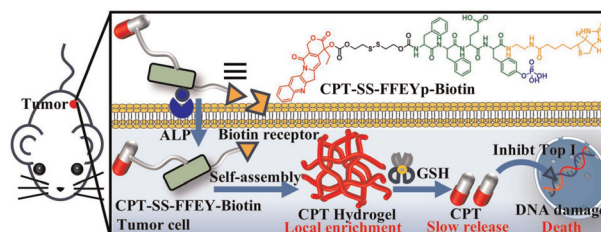
Aniello Pelella,* Luca Camilli, Filippo Giubileo, Alla Zak, Maurizio Passacantando, Yao Guo, Kimberly Intonti, Arun Kumar and Antonio Di Bartolomeo*



2061

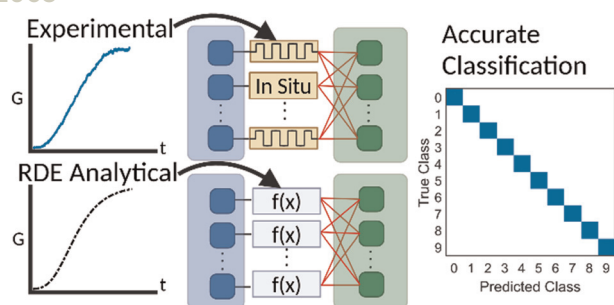
Sequential self-assembly and release of a camptothecin prodrug for tumor-targeting therapy

Wujuan Zhu, Minghui Yu, Minghui Wang, Miaomiao Zhang* and Zijuan Hai*



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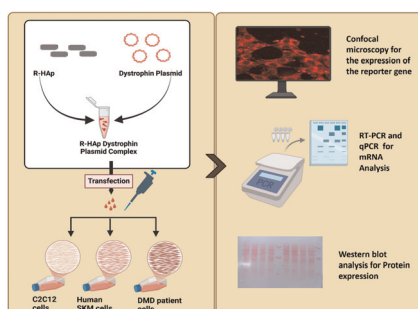
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Nonlinear memristor model with exact solution allows for *ex situ* reservoir computing training and *in situ* inference

Nicholas Armendarez, Md Sakib Hasan* and Joseph Najem*

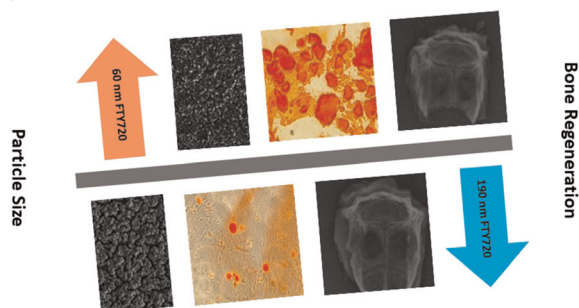
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Hydroxyapatite nanoparticle mediated delivery of full length dystrophin gene as a potential therapeutic for the treatment of Duchenne muscular dystrophy

Pooja Kotharkar, Indrani Talukdar,* Sutapa Roy Ramanan, Keerthi Ramesh, Arun Shastry and Meenal Kowshik*

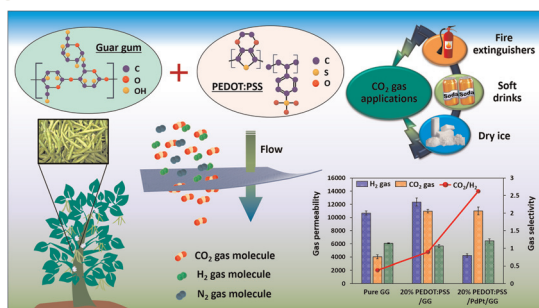
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Small but mighty: nanoemulsion particle size dictates bone regeneration potential of FTY720

Bitra Rasoulia, Delaram Poormoghadam, Elham Hoveizi, Seyed Mahdi Rezayat and Shima Tavakol*

2105



Bimetallic PdPt nanoparticle-incorporated PEDOT: PSS/guar gum-blended membranes for enhanced CO₂ separation

Nishel Saini, Gaurav Pandey, Ankit Sharma, Kamakshi Pandey* and Kamendra Awasthi*

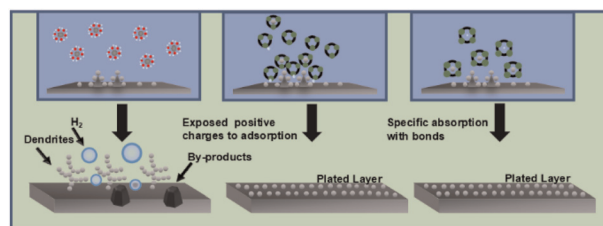


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2121

Solvation structure regulation of zinc ions with nitrogen-heterocyclic additives for advanced batteries

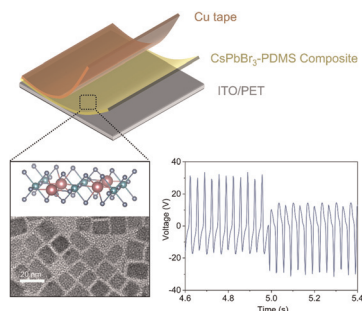
Junhao Shang, Yanxu Wang, Song Chen and Jintao Zhang*



2130

Flexible and stable piezoelectric nanogenerators based on monoclinic phase CsPbBr₃ perovskite nanocrystals

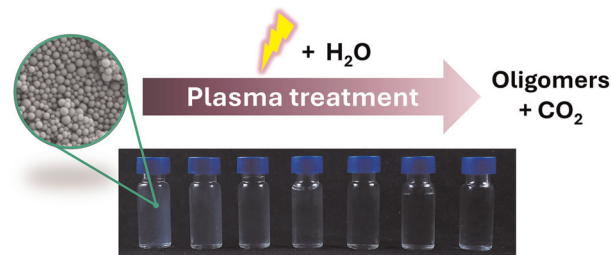
Jingkun Xu,* Yechen Zhou, Hao Jiang,* Kaiyan Zhu, Ying Wan, Min Lai and Shuhong Xu*



2138

Plasma-assisted destruction of polystyrene nanoplastics

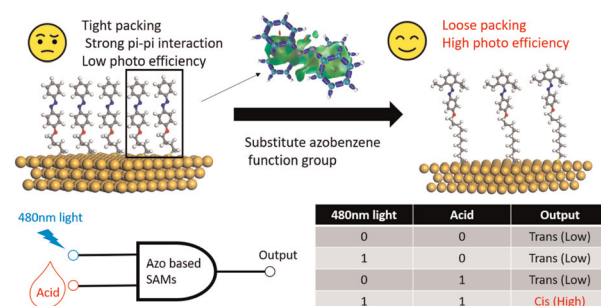
Matthew R. Winburn, Maria F. Alvarado and Chin Li Cheung*



2147

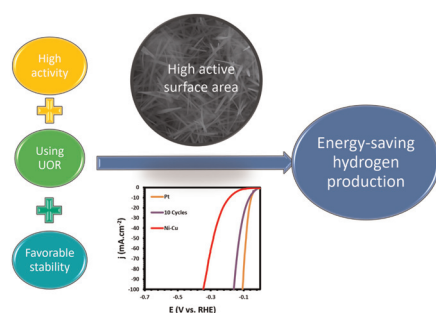
Multi-stimuli actuation of a photoresponsive azobenzene based molecular switch

Jianbo Li, Chang Liu, Jinyan Wang, Chenguang Liu,* Chun Zhao, Jiawei Ren, Hailian Huang, Yijia Wang, Qian Zhang, Yannick J. Dappe, Richard J. Nichols and Li Yang*



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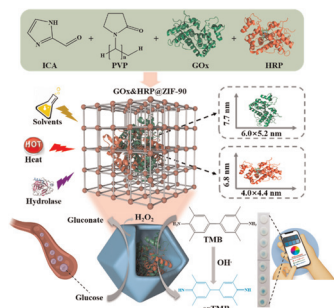
2162



Sustainable and energy-saving hydrogen production *via* binder-free and *in situ* electrodeposited Ni–Mn–S nanowires on Ni–Cu 3-D substrates

Ghasem Barati Darband,* Danial Iravani, Meiling Zhang, Meysam Maleki, Shanrui Huang, Seyyed Mehdi Khoshfetrat, Reza Andaveh and Jinyang Li*

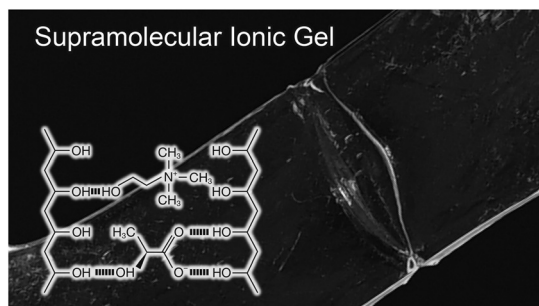
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Increasing the dual-enzyme cascade biocatalysis efficiency and stability of metal–organic frameworks *via* one-step coimmobilization for visual detection of glucose

Haotian Chen, Zelong Yan, Jiangyue Ning, Xingyan Bao, Li Ding and Chang Shu*

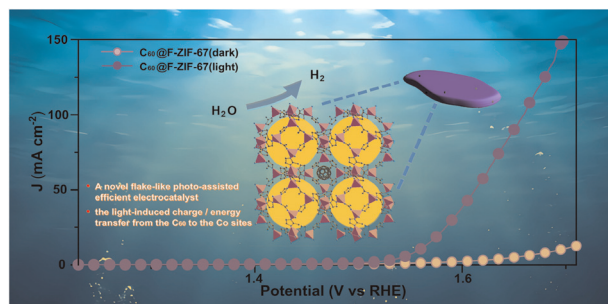
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Development of supramolecular ionic gels with self-healing capability and biodegradability using a bioderived ionic liquid and poly(vinyl alcohol)

Shunsuke Yamada* and Takashi Honda

2193



Light-induced charge transfer from a fullerene to a zeolitic imidazolate framework enhances alkaline electrocatalytic hydrogen production

Jun Zhang, Mengting Gao, Ying Wang, Ying Wei, Yirong Qi, Qingqing Liu, Xu Li, Qunzhi Ma, Jianfeng Huang and Yongqiang Feng*

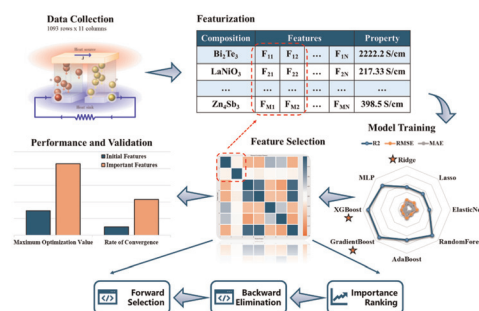


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2200

Feature mining for thermoelectric materials based on interpretable machine learning

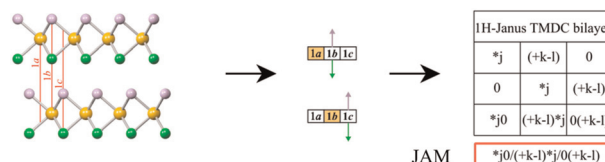
Yiyu Liu, Zilong Mu, Peichao Hong, Yun Yang and Changxu Lin*



2215

Comprehensive determination of highly symmetric transition metal dichalcogenide multilayers

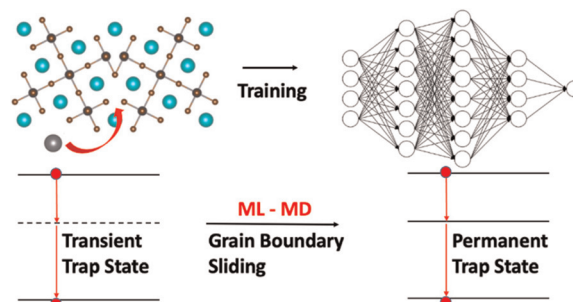
Jessica Arcudia,* Filiberto Ortiz-Chi, Jorge Barroso and Gabriel Merino*



2224

Point defects at grain boundaries can create structural instabilities and persistent deep traps in metal halide perovskites

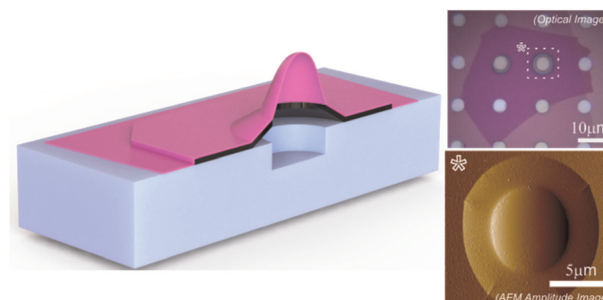
Yifan Wu, Dongyu Liu, Weibin Chu, Bipeng Wang, Andrey S. Vasenko and Oleg V. Prezhdo*



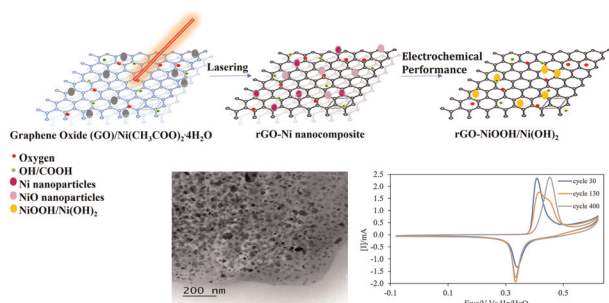
2235

Blister test to measure the out-of-plane shear modulus of few-layer graphene

Metehan Calis, Narasimha Boddeti and J. Scott Bunch*



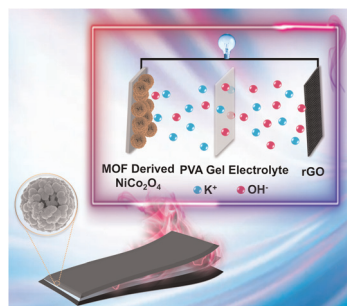
2243



Nickel-oxide embedded laser-induced graphene for high-performance supercapacitors

Hani Porat, Aneena Lal, Asmita Dutta, Manish Kumar Yadav, Divya Catherin Sesu, Refael Minnes and Arie Borenstein*

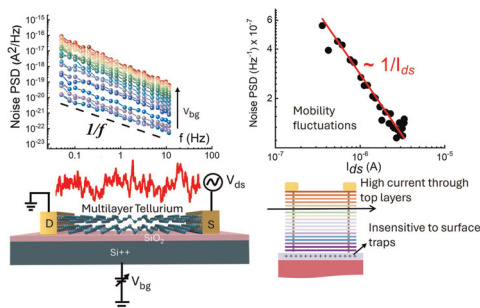
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Rational design of NiCo₂O₄@carbon hollow spheres as a high-performance electrode material for flexible supercapacitors

Naveen T. Bharanitharan, Durgalakshmi Dhinasekaran, M. R. Ashwin Kishore, Balakumar Subramanian and Ajay Rakkesh Rajendran*

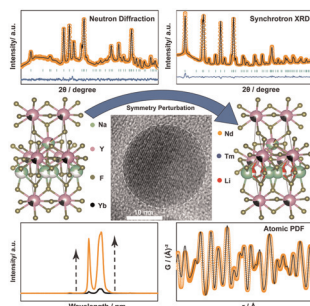
2259



Charge noise in low Schottky barrier multilayer tellurium field-effect transistors

Shubhadip Moulick,* Dipanjan Maity, Gaurab Samanta, Kalyan Mandal and Atindra Nath Pal*

2269



Nature of local disorder in β -NaYF₄-based, near-infrared upconverting core nanocrystals due to deliberate incorporation of a symmetry perturbing agent

Panchanan Pandey, S. D. Kaushik, Parasmani Rajput, Manvendra Narayan Singh, Rajendra Kumar Sharma and Supratim Giri*

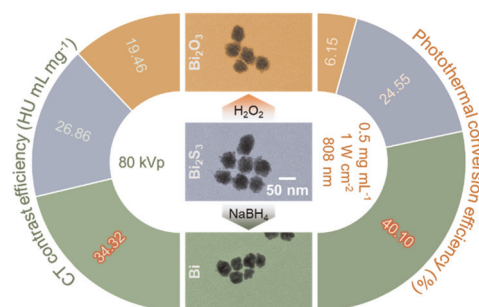


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2281

Controllable synthesis and biomedical applications of bismuth-based nanospheres: enhanced photothermal therapy and CT imaging efficiency

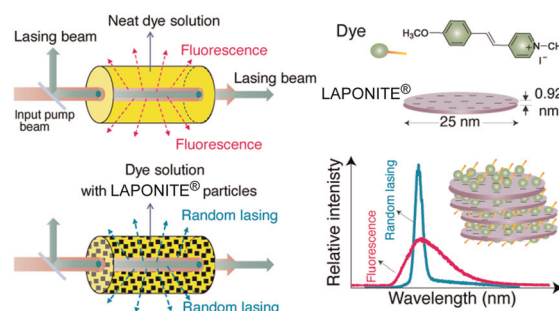
Dongxun Chen, Baowang Miao, Guidong Zhu, Yanjie Liang* and Chengwei Wang*



2292

Two-photon pumped forward, backward and random lasing in a stilbazolium dye nanocomposite solution containing LAPONITE® as a scattering center

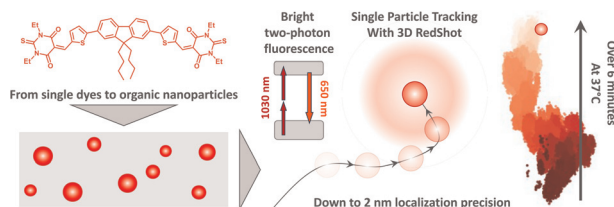
Guang S. He,* Sonal Gupta, Richard A. Vaia, Yogesh M. Joshi and Paras N. Prasad*



2304

3D real-time single particle tracking using two-photon fluorescence from bright dye-based organic nanoparticles

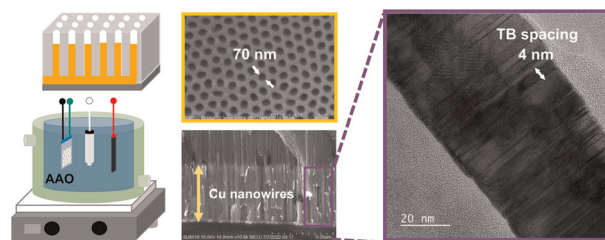
Marie-Charlotte Emperauger, Eleonore Kurek, Florian Semmer, Karen Perronet, Jonathan Daniel, Mireille Blanchard-Desce* and François Marquier*



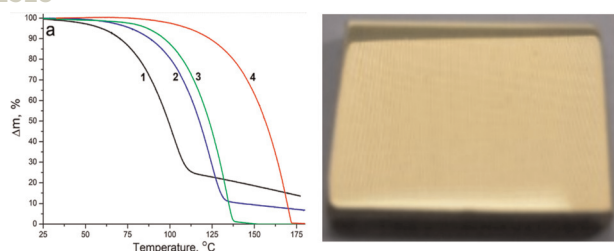
2312

Electrodeposition of Cu nanowires with ultrahigh-density twin boundaries: an electrochemical perspective on nanotwinning

Hao-Che Huang, Hsin-Yu Chen and Chien-Neng Liao*



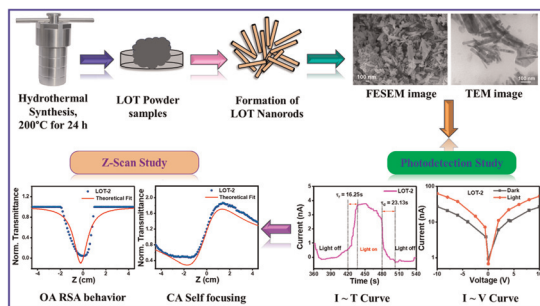
2318



ALD and CVD deposition of pure thin gold films from a stable dimethylgold(III) precursor

Roman G. Parkhomenko,* Igor K. Igumenov, Sebastien Elie Hadjadj, Sergey V. Trubin and Mato Knez

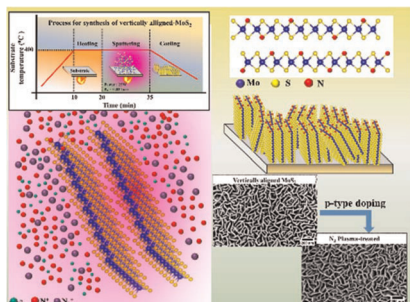
2326



Enhanced two-photon absorption in hydrothermally synthesized $\text{La}_2\text{O}_6\text{Te}$ nanorods for visible light photodetection

Prabhukrupa Chinmay Kumar, Swikruti Supriya, Ashutosh Mohapatra, Sripan Chinnaiyah and Ramakanta Naik*

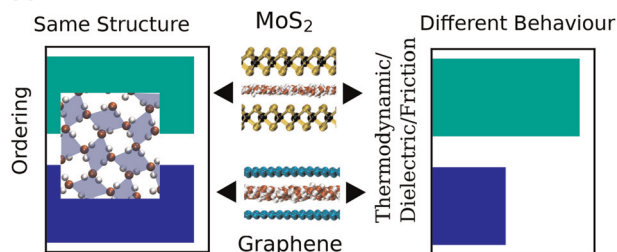
2345



P-type doping in edge-enriched MoS_{2-x} nanostructures via RF-generated nitrogen plasma

Khomdrum Bijoykumar Singh, Jyotisman Bora, Bablu Basumatary, Shakyadeep Bora and Arup Ratan Pal*

2354



Similar structure but different thermodynamic, dielectric, and frictional properties of confined water in twisted 2D materials: MoS_2 vs. graphene

Jeet Majumdar, Soham Mandal, Ananth Govind Rajan and Prabal K. Maiti*



CORRECTION

2365

Correction: Relieving immunosuppression during long-term anti-angiogenesis therapy using photodynamic therapy and oxygen delivery

Qianyuan He, Zhanjie Zhang, Haojie Liu, Zhan Tuo, Jie Zhou, Yan Hu, Yajie Sun, Chao Wan, Zushun Xu, Jonathan F. Lovell, Desheng Hu,* Kunyu Yang* and Honglin Jin*

